

STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
4601 N. Monroe, Suite 202 • Spokane, Washington 99205-1295

July 9, 1999

Fairchild AFB
Cusick Survival School
92 CES/CEV 100 W. Ent Street, Suite 155
Fairchild AFB, WA 99011-9404

Dear Sir or Madam:

Re: Ground Water Application No. G3-29919

Enclosed please find a copy of the Department of Ecology's Report of Examination. This report constitutes our determination and order regarding the above referenced application.

Your application has been approved and a permit will be issued in accordance with the enclosed Report of Examination upon payment of the statutory fee of \$20.00. Please remit your payment by check to the Department of Ecology within thirty (30) days from receipt of this letter.

Issuance of this Report of Examination is an appealable decision under Chapter 43.21B RCW. If you would like to appeal this order and determination, you must file your appeal with the Pollution Control Hearings Board, P.O. Box 40903, Olympia, WA 98504-0903 within thirty (30) days of the date of mailing of this letter and the enclosed Report of Examination. A copy of your appeal must also be sent to the Department of Ecology, Water Resources Program Appeals Coordinator, P.O. Box 47600, Olympia, WA 98504-7600 within thirty (30) days of the date of mailing of this letter and the enclosed Report of Examination.

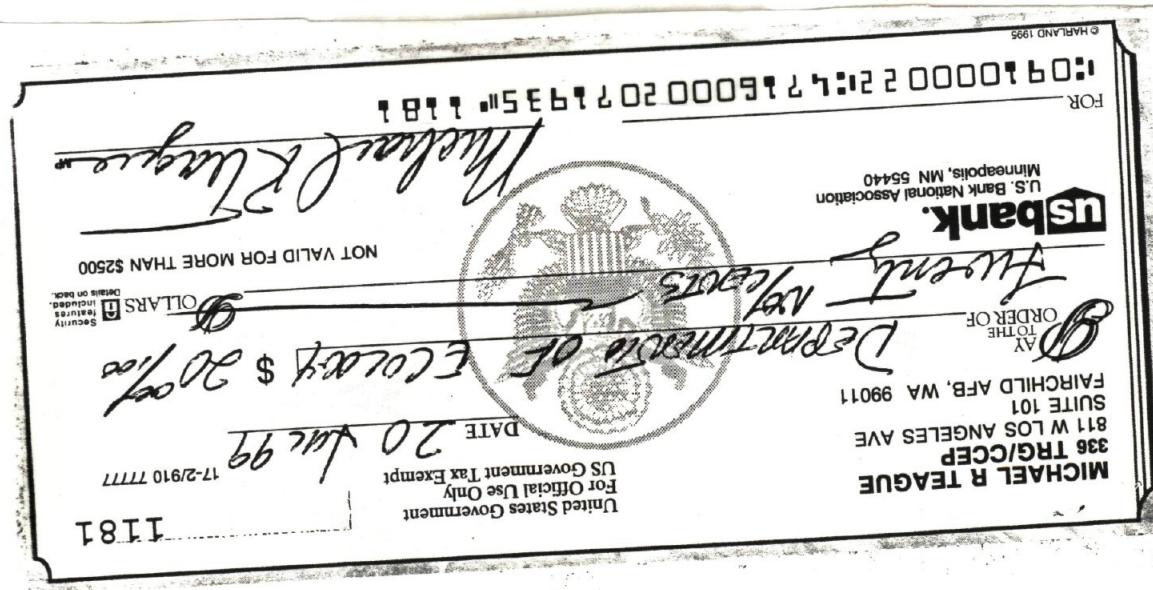
Sincerely,

George B. Schlender
Section Manager
Water Resources Program

GBS:kt
Enclosures

Check is attached per your request.

DEANNA S. SNELLA
Comptroller
USAF Survival School
20 July 1999



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

REPORT OF EXAMINATION
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
August 22, 1995	G3-29919		

NAME	(CITY)	(STATE)	(ZIP CODE)
FAIRCHILD AIR FORCE BASE - Cusick Survival School 92 CES/CEV 100 W. Ent Street, Suite 155	Fairchild AFB	Washington	99011-9404

PUBLIC WATERS TO BE APPROPRIATED

SOURCE
A well

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
	30	48

QUANTITY, TYPE OF USE, PERIOD OF USE

30 gallons per minute, 48 acre-feet per year, continuously, for multiple domestic supply

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL

2376 feet east 1056 feet south from the NW corner of Sec. 27

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION)	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
NE $\frac{1}{4}$ NW $\frac{1}{4}$	27	34	43 E.	62	Pend Oreille

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

NE $\frac{1}{4}$ NW $\frac{1}{4}$ of Sec. 27, T. 34 N., R. 43 E.W.M.

The water source and/or water transmission facilities are not wholly located upon the land owned by the applicant to, or other right to use, land which the applicant does not legally possess. Obtaining a right of such right is a private issuance of a permit by this Department for appropriation of the waters in question does not convey a right of access to that amount of water within the specified limit that is beneficially used and required.

"The amount of water granted is a maximum limit that shall not be exceeded and the water user shall be entitled only to that amount of water within the specified limit that is beneficially used and required."

"An approved measuring device shall be installed and maintained in accordance with RCW 90.03.360 and/or WAC 508-64-020 through WAC 508-64-040." (Installation, operation and maintenance requirements attached hereto).

This application for a public ground water permit should be approved in the amount 30 gallons per minute, 48 acre feet per year, for a continuous multiple domestic supply, subject to the following provisions:

It is the conclusion of this examiner that: public ground water is available for appropriation for a beneficial use; that a continuous multiple domestic supply is a beneficial use; that the appropriation of such water will not impair existing rights or be detrimental to the public welfare.

CONCLUSIONS

The applicant has requested 48 acre-feet per year for an annual use from this well. It is unlikely that this quantity of ground water will be used in this facility and the permit will be reduced to the historic use when a proof of back-up to the claim. The applicant has stated in a letter dated August 17, 1995 that the claim is probably not valid due to its first date of use of 1969.

This facility has been constructed and the applicant has been using ground water from the original well since the late 1960s. The applicant filed a claims registration for the original 22-foot well in 1969 and has filed this application as a back-up to the claim. Due to the high potential for hydraulic continuity between wells and Tacoma Creek, a permit issued under this application will be subject to the Pend Oreille River low flow of 770 cfs.

Due to the very few withdrawals from Tacoma Creek as the majority of the creek lies within the Kaniksu National Forest, tributary to the Pend Oreille River and maintains a high flow throughout the year due to its large drainage area. There are very few withdrawals from Tacoma Creek. Tacoma Creek is tributary to the Pend Oreille River and maintains a static continuity with Tacoma Creek. This well drilled in 1969 to a depth of 100 feet. This new well has a static water level of 50 feet below land surface and it appears from the well log that it is also in direct hydraulic continuity with Tacoma Creek. This well is no longer used and has been replaced by a second well drilled in 1996 to a depth of 22 feet below land surface. This well is adjacent to Tacoma Creek and is considered to be in direct hydraulic continuity with the creek. This well is adjacent to Tacoma Creek and is A well was drilled in 1969 to a depth of 22 feet below land surface. This well is adjacent to Tacoma Creek and is

of Cusick adjacent to Tacoma Creek on Tacoma Creek Road. James M. Lyerla conducted a field examination on January 3, 1998. The project is located 8 miles North of the Town Chapter 90.66 RCW.

INVESTIGATION

This application is categorically exempt from the provisions of the State Environmental Policy Act (SEPA) of 1971, Chapter 43.21C RCW. A permit issued under this application is exempt under the Family Farm Water Act of 1977,

A notice of application was duly published in accordance with RCW 90.03.280. No protests to the granting of a permit were received.

An application to appropriate public ground water was submitted by Fairchild Airforce Base to the Department of Ecology on August 22, 1995. The application was accepted and assigned Ground Water Application No. G3-29919. An application to appropriate public ground water was submitted by Fairchild Airforce Base to the Department of Ecology on August 22, 1995. The application was accepted and assigned Ground Water Application No. G3-29919. The application proposes to withdraw ground water from a well in the amount of 30 gallons per minute for continuous multiple domestic supply for the Cusick Survival School. The applied for point of withdrawal is an existing well located within the NE1/4NW1/4 of Sec. 27, T. 34 N., R. 43 E.W.M. in Pend Oreille County, Washington located within the NE1/4NW1/4 of Sec. 27, T. 34 N., R. 43 E.W.M. in Pend Oreille County, Washington located within the NE1/4NW1/4 of Sec. 27, T. 34 N., R. 43 E.W.M. in Pend Oreille County, Washington

BACKGROUND

REPORT

DEVELOPMENT SCHEDULE	WATER PUT TO FULL USE BY THIS DATE	COMPLETE PROJECT BY THIS DATE	BEGIN PROJECT BY THIS DATE	Complete
Well, pump and distribution system.	July 1, 2000			
DESCRIPTION OF PROPOSED WORKS				

Report Continued

"This authorization to make use of public waters of the State is subject to existing rights, including any existing rights held by the United States for the benefit of Indians under treaty or otherwise."

"A certificate of water right will not be issued until a final examination is made."

"Nothing in this authorization shall be construed as satisfying other applicable federal, state, or local statutes, ordinances, or regulations."

"All water wells constructed within the State shall meet the minimum standards for construction and maintenance as provided under RCW 18.104 (Washington Water Well Construction Act of 1971) and Chapter 173-160 WAC (Minimum Standards for Construction and Maintenance of Water Wells)."

"The installation of an access port, described in Ground Water Bulletin #1, shall be required prior to issuance of a final certificate of water right. In addition, an airline and pressure gauge shall be installed and maintained in operating condition. The pressure gauge shall be equipped with a standard tire valve and placed in an accessible location. The airline shall extend from land surface to the top of the pump bowls and the total airline length shall be reported to the Department of Ecology upon completion of the pump system."

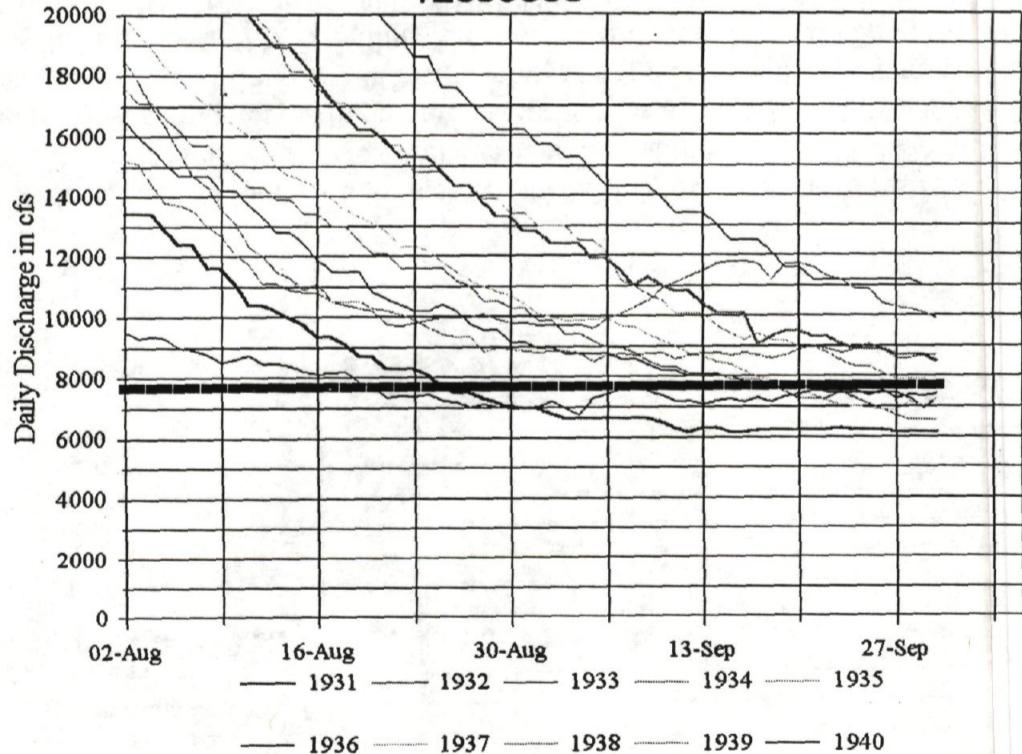
"A well log of the completed well shall be submitted by the driller to the Department of Ecology within thirty (30) days of completion of this well. This well log shall be complete and all information concerning the static water level in the completed well in addition to any pump test data shall be submitted as it is obtained."

"The Washington State Department of Fish and Wildlife (WDFW), has recommended that water rights from the Pend Oreille River be conditioned with instream flows of 7,700 cubic feet per second (cfs) on a year-round basis (as measured at the gage near Newport, Washington).

The following hydrographs for the U.S.G.S. Gage on the Pend Oreille River at Newport, Idaho (12395500) demonstrate important hydrologic characteristics of the Pend Oreille River. Before the construction of the Albeni Falls Dam, the river exhibited normal, riverine flow conditions. The first hydrograph shows the typical late summer flow regime for 10 different water years in the 1930s and early 1940s. The solid line at 7700 cfs represents WDFW's recommended instream flow value as it would have applied to the river in the 1930s. When summer flows reached their baseflow, they tended to stay down at that level for the remainder of the water year.

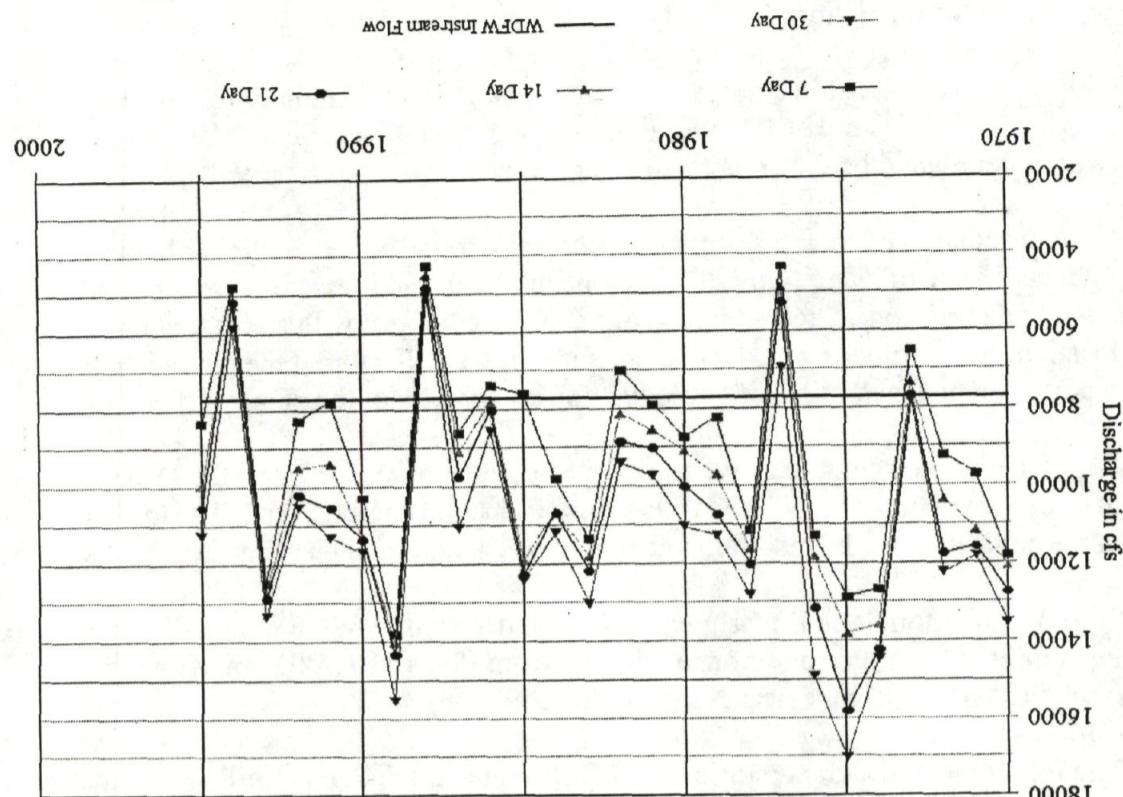
Pend Oreille R at Newport

12395500



With the construction of the Albeni Falls dam in 1952, the character of the daily discharge changed dramatically from a riverine regime to an impounded, highly regulated, flow regime. The next hydrograph depicts the late summer, daily average discharge for a ten-year period in the 1980s through the early 1990s. The highly variable discharge data reflects the flows that result from the power generation demands that are placed on the river.

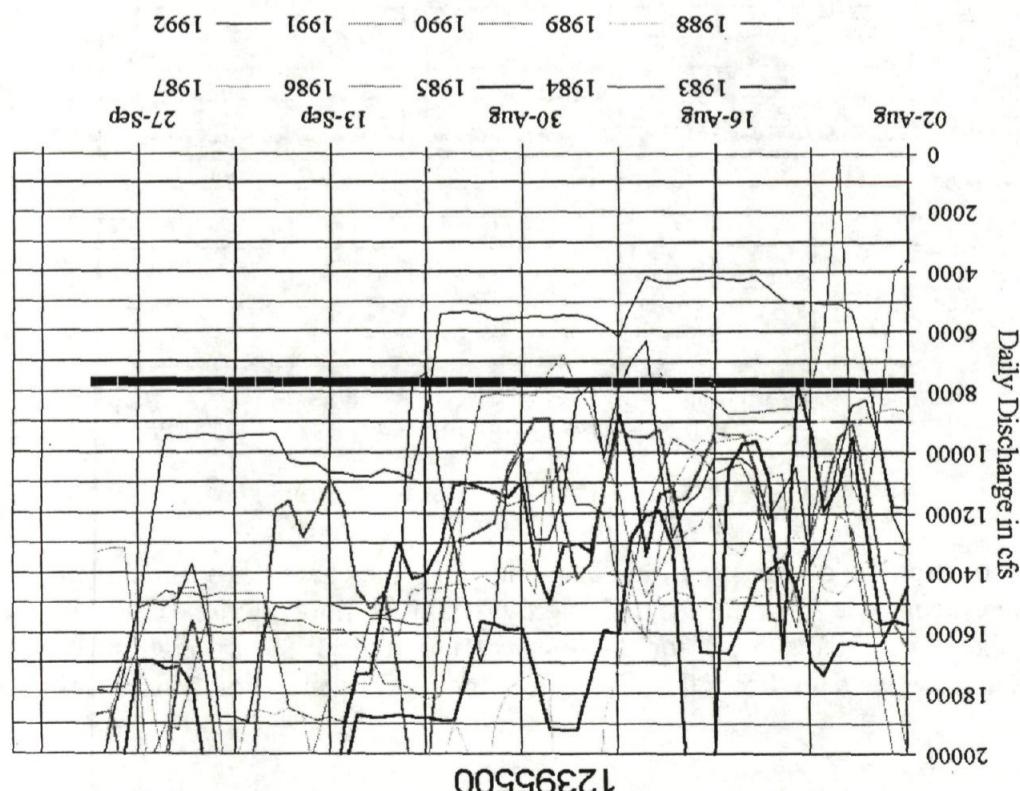
flow, the low flow will last for approximately one month (typically August). During that time in ten years when the flow in the river is below the recommended times out of ten years. We can expect the summer low flows in the Pend Oreille River will be above the instream flow 8 to 9 on average, we can expect the summer low flows in the Pend Oreille River will be above the instream flow. The following graph demonstrates that Pend Oreille River can be expected to be below the recommended instream flow. The flows on the Pend Oreille River (on a yearly basis) and for what duration (how many weeks during each year) the flows on the Pend Oreille River can be expected to be below the recommended instream flow. The following graph demonstrates that calculating the exceedance probability for the daily average flows for the period 1970 - 96 allows us to see how frequently (on a yearly basis) and for what duration (how many weeks during each year) the flows on the Pend Oreille River can be expected to be below the recommended instream flow.



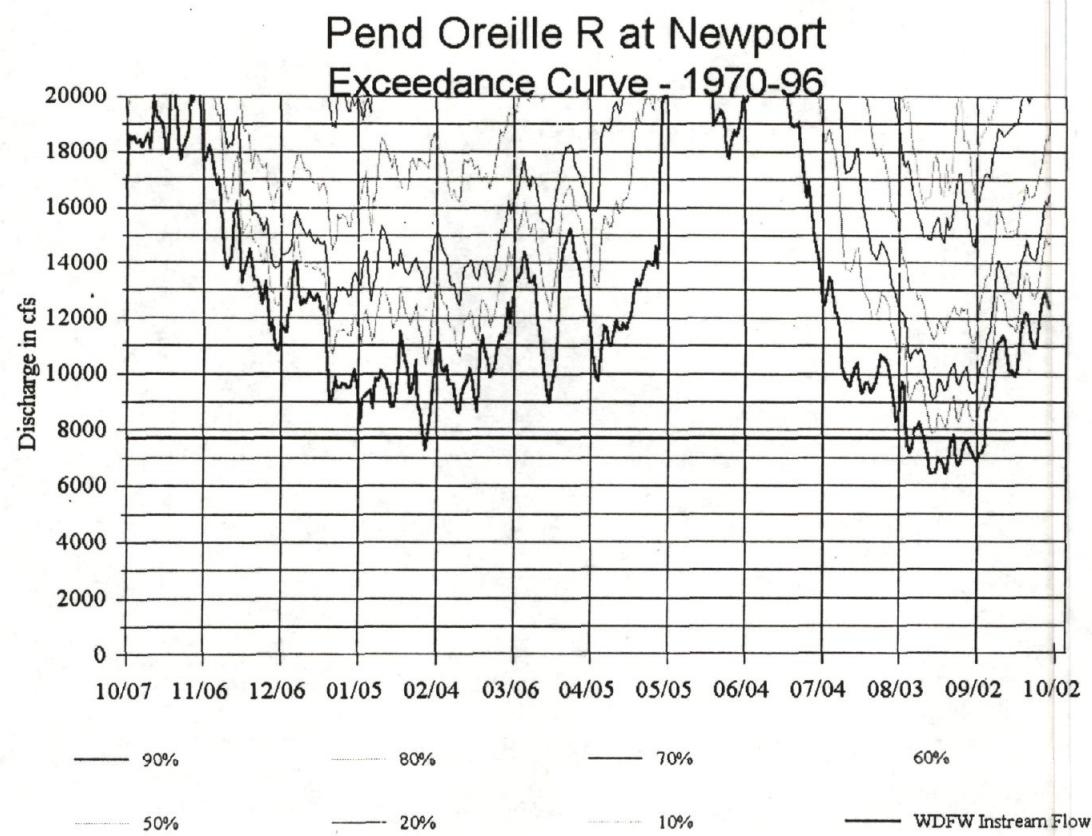
Pend Oreille River Low Flow Analysis

Looking at the actual daily flow data, we can see that three years during the period 1970 - 96 exhibited sustained, low flow periods that were lower than the 7700 cfs threshold (1977, 1988, and 1994). The data from the duration frequency analysis shows that using a 14-day low flow criteria gives us the best opportunity to identify the low flow events.

Looking at the day-to-day variability is on the order of 5,000 cfs. Looking at a suite of duration frequency low flow analyses (7-day, 14-day, 21-day, and 30-day) for the 1970 through 1996 period allows us to get a better handle on when the flow in the river is truly flowing at a rate that is below the recommended instream flow. By examining the data in the hydrograph, just simply regulating junior water rights every time the daily average flow drops below 7700 cfs (the recommended instream flow) would be inappropriate and unworkable. Examining the data in the hydrograph indicates that the day-to-day variability is on the order of 5,000 cfs. Looking at a suite of duration frequency low flow events that were lower than the 7700 cfs threshold (1977, 1988, and 1994). The data from the duration frequency analysis shows that using a 14-day low flow criteria gives us the best opportunity to identify the low flow events.

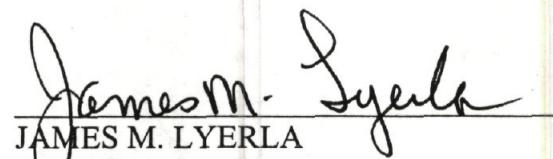


Pend Oreille R at Newpot



Therefore, this permit shall be conditioned that all diversion shall cease when the 14-day average flow in the Pend Oreille River falls below 7700 cfs (as measured at the Pend Oreille River at Newport gage) as recommended by WDFW."

Signed at Spokane, Washington
this 9th day of July, 1999


JAMES M. LYERLA
Water Resources Program
Department of Ecology